REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1 and 3-17 are presently active in this case, Claims 1 and 3-17 having been amended by way of the present Amendment. Withdrawn Claims 18-41 have been canceled without prejudice or disclaimer. Care has been taken such that no new matter has been entered.

The Applicants respectfully request the entry of the amendments set forth herein as they are believed to merely correct minor informalities and place the application into condition for allowance or better condition for appeal.

Claims 3-17 were indicated as being allowable if the rejection under 35 U.S.C. 112, second paragraph is overcome.

In the outstanding Official Action, Claims 1 and 3-17 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims have been amended as suggested in the Official Action. Accordingly, the Applicants respectfully request the withdrawal of the indefiniteness rejection.

Since the rejection under 35 U.S.C. 112, second paragraph, is overcome for the reasons discussed above, Claims 3-17 are in condition for allowance.

Claim 1 was rejected under 35 U.S.C. 102(e) as being anticipated by Ishikawa et al. (U.S. Patent No. 6,618,573). For the reasons discussed below, the Applicants traverse this rejection, and request the withdrawal of the anticipatory rejection.

In the Office Action, the Ishikawa et al. reference is indicated as anticipating Claim 1. However, the Applicants note that a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). As will be demonstrated below, the Ishikawa et al. reference clearly does not meet each and every limitation of the independent Claim 1.

Claim 1 recites a method of evaluating a fixing member comprising carrying out a hardness test on the fixing member, which is used to fix a toner and has a surface layer, by measuring a hardness value equal to a pressure applied to the surface layer of the fixing member by a probe load divided by an area of indentation as a function of indentation depth measured while the pressure is applied at a room temperature. When deformation of the surface layer as a result of the indentation depth while the pressure is applied is within an elastic range, the fixing member is regarded as a standard product. The indentation depth is recited as being less than one-fifth of a thickness of the surface layer.

In the Official Action, it was indicated that the Ishikawa et al. reference describes a hardness for an acceptable member that is based on applied load divided by the square of the indentation depth, which was described as being "equivalent to" the area of indentation as a function of indentation depth measured while the pressure is applied" as in the present invention. The Applicants respectfully traverse the assertion that the hardness calculation described in the Ishikawa et al. reference is equivalent to the hardness valve expressly recited in Claim 1 of the present application.

The Ishikawa et al. reference describes a hardness calculation where the hardness is

equal to a constant (specifically a constant of 3.8584) times the measurement load divided by the square of the indentation push depth. The indentater shape described is a triangular pyramid shaped indentater of 115°. The Ishikawa et al. reference does not indicate how this formula is derived, nor does the Ishikawa et al. reference indicate what the constant of 3.8584 represents. However, the Applicants respectfully submit that this formula is clearly different from the hardness value defined in Claim 1 of the present application.

Claim 1 recites a hardness value equal to a pressure applied to the surface layer of the fixing member by a probe load divided by an area of indentation as a function of indentation depth measured while the pressure is applied. By way of illustration and not limitation, the specification describes an embodiment in which the universal hardness (HU), which is equal to the test load (F) over the surface area (SA) of the indentation probe, is defined as being equal to $F/26.43\ h^2$ (N/mm^2). The indentation probe in this example is a quadrangular pyramid shaped probe having an angle of 136° between facing surfaces. Thus a calculation of the four triangular side surfaces of the quadrangular pyramid (which constitutes the surface area of the indentation probe that contacts the surface being tested) was calculated to be equal to $26.43\ h^2$ (mm^2). This calculation was made by calculating the surface area of each of the four triangular sides, which are equal to ½ base width (b) times the height of the side (height), and multiplying that surface area by four (since there are four sides on a quadrangular pyramid). Using the Pythagorean theorem, height = square root $(h^2 + (b/2)^2)$, where h is the height of the pyramid and also the depth of the indentation. Also, using the angle of 136° of the facing surfaces, $b = 2h\tan(136/2) = 4.9502h$. By plugging these relationships into the surface area equation, it is determined that the total surface area is 4 times $6.6075h^2$ or

$26.43h^2$.

When the surface are of the indentater described in the Ishikawa et al. reference is calculated, the resulting calculation does not result in the relationship set forth in column 10, lines 15-17 of the Ishikawa et al. reference. The Ishikawa et al. reference indicates that $H = 3.8584F/h^2$, where F is the load and h is the indentation depth. Thus, if this equation is equated with the equation in the present invention, then the surface area (SA) is equal to $(1/3.8584)h^2 = 0.2592h^2$. As noted above, the indentater of the Ishikawa et al. reference is described as a triangular pyramid shaped indentater of 115°. Thus, the surface area (SA) is equal to the surface area of each of the three triangular sides of the triangular pyramid. Through geometric relationships it can be determined that the three sides of the pyramid are at an angle of 65° with respect to the height (h) of the pyramid. Through use of the Pythagorean theorem and geometric relationships, it can be determined that $b = 7.4281h$ and that the height of a side (height) = 2.3661h. Thus, the total surface area (SA) = $3 \cdot (1/2) \cdot b \cdot \text{height} = 3/2 \cdot 7.4281h \cdot 2.3661h = 26.36h^2$.

Therefore, if the Ishikawa et al. reference used the same calculation for the hardness (namely, the load divided by the surface area of the probe in contact with surface being tested), then the Ishikawa et al. reference would have disclosed a hardness equation where $H = \text{Load}/26.36h^2$. However, instead the Ishikawa reference described a hardness equation where $H = (3.8584 \cdot \text{Load})/h^2 = \text{Load}/0.2592h^2$, which is clearly not equivalent to the hardness calculation made using the present invention of $H = \text{Load}/26.36h^2$, for the particular indentation probe described in the Ishikawa et al. reference. Thus, the Applicants respectfully submit that the hardness described in the Ishikawa et al. reference is clearly not

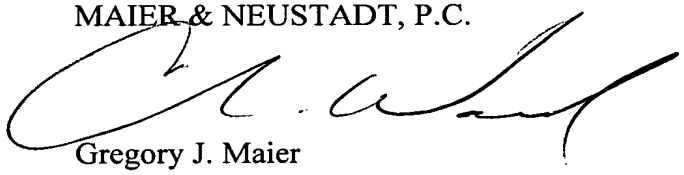
equivalent to the hardness recited in Claim 1 of the present application.

Accordingly, the Applicants respectfully request the withdrawal of the anticipation rejection of Claim 1 of the present application.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Registration No. 25,599
Attorney of Record

Christopher D. Ward
Registration No. 41,367

Customer Number
22850
Tel. (703) 413-3000
Fax. (703) 413-2220
(OSMMN 10/01)

GJM:CDW:brf
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